



Memorandum

*To: Jennifer LaPoma, EPA Region 2
Elizabeth Franklin, USACE*

*From: David A. Marabello, CDM Smith
Scott Kirchner, CDM Smith*

Date: August 26, 2016

*Subject: Summary of Oversight of SPME Sampler Retrieval Effort at River Mile 10.9
August 19-21, 2016
Lower Passaic River Restoration Project*

On behalf of the United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE), Kansas City District, CDM Federal Programs Corporation (CDM Smith) traveled to the River Mile (RM) 10.9 removal area on August 19, 20, and 21, 2016. CDM Smith provided field technical oversight of the retrieval of solid-phase microextraction (SPME) samplers that had been installed on June 3, 4, and 5, 2016 at Stations 0601, 0602, 0603, 0604, 0605, 0606, 0607, 0608, 0609, and 0610. These field activities were conducted by AECOM on behalf of the Cooperating Parties Group (CPG).

The SPME samplers retrieved by AECOM during the August 2016 field efforts had been installed as part of a post-construction monitoring event for the RM 10.9 sediment cap. The SPME passive porewater samplers are intended to assess contaminant concentrations in the sediment bed below the cap, in the active cap layer, and in the armor stone layer of the RM 10.9 cap. These samplers are part of an initial performance monitoring event that includes SPME sampling at the ten planned locations along the length of the RM 10.9 cap. Three samplers were installed at each of the ten stations during the June 2016 mobilization, with one set of duplicate samplers installed at Station 0603. The three SPME samplers installed at each location were as follows:

- A deep sampler, installed in the underlying sediment at approximately 36 inches below the mudline
- A mid-depth sampler, installed in the active layer at approximately 24 inches below the mudline
- A shallow sampler, installed in the armor layer at approximately 16 inches below the mudline

Photographs of these August 2016 field activities are presented in Attachment 1. A copy of the field logbook notes is provided in Attachment 2.

Summary of August 19, 2016 Field Activities

Personnel in Attendance

Keegan Roberts – CDM Smith
Yeqing Liu – CDM Smith
Tian Liao – CDM Smith
Helen Jones – AECOM
Rick Purdy – AECOM
Claire Murphy-Higgin – AECOM
Rei-Hua Wang – AECOM
Jennifer Reed – AECOM
Albert Macaulay – AECOM

General Summary

The August 19, 2016 field activities consisted of:

- Collection of five total grab samples of the soft sediments deposited above the cap at Stations 0606, 0607, 0608, 0609 and 0610.
- Retrieval of 15 SPME passive samplers from Stations 0606, 0607, 0608, 0609 and 0610.
- Processing fibers from nine of the retrieved SPME samplers for chemical analyses. The fibers from the remaining six samplers retrieved on August 19th were processed on August 20th due to fading daylight on August 19th

Sediment Sampling

AECOM collected a grab sample of the soft surface sediments on top of the cap at each sample station prior to retrieving the SPME samplers, as required by the Quality Assurance Project Plan ("QAPP", AECOM 2015). Sediment sampling locations and collection times are noted in Table 1 below.

Table 1: August 19, 2016 Sediment Sample Summary

Collection Time	Sample Location	Notes
14:58	Station 0607	Sample collected from between armor layer SPME sampler and active layer SPME sampler
15:16	Station 0606	Sample collected from base of active layer SPME sampler
16:10	Station 0610	Sample collected between all three SPME samplers
16:37	Station 0608	Sample collected from base of armor layer SPME sampler
17:08	Station 0609	Sample collected from base of armor layer SPME sampler

The aforementioned sediment samples were collected from an interval extending from the surface of the sediments overlying the armor layer to approximately 5 to 6 inches down (i.e., the sample interval was above the armor layer). At Stations 0606, 0607, 0608, and 0610, a stainless steel spoon was used to

collect the sediment sample and transfer the sediment sample into amber glass sample jars. The sediments at each location appeared to be very loosely consolidated, with a high water content. The sediment sample collection process lasted approximately 3 minutes for each sample exclusive of preparation time. At Station 0609, the sediment remained submerged so the sediment sample was collected with a peat sampler so that the sediment could be collected and excess water could be drained before sample processing. From this sampler, the top 2 to 4 inches was collected with a stainless steel spoon and transferred into an amber glass sample jar. This process was repeated approximately 7 times to fill the amber glass jar and took approximately 6 minutes exclusive of preparation time.

Five total sample jars were filled and packaged.

SPME Sampler Retrieval and Sample Processing

The 15 SPME samplers retrieved on August 19 were installed on June 3-5, 2016. All SPME samplers retrieved on August 19 appeared to be straight and unbent, as noted in Table 2 below.

Table 2: August 19, 2016 SPME Sample Retrieval Summary

Station Location	Collection Time	Planned Sample Interval	Notes
0607	15:00	Armor Layer	Sampler appears straight.
	15:02	Active Layer	Sampler appears straight.
	15:03	Underlying Sediment	Sampler appears straight.
0606	15:18	Armor Layer	Sampler appears straight.
	15:20	Active Layer	Sampler appears straight.
	15:22	Underlying Sediment	Sampler appears straight.
0610	16:11	Armor Layer	Sampler appears straight.
	16:14	Active Layer	Sampler appears straight.
	16:15	Underlying Sediment	Sampler appears straight.
0608	16:39	Armor Layer	Sampler appears straight.
	16:41	Underlying Sediment	Sampler appears straight.
	16:43	Active Layer	Sampler appears straight.
0609	17:16	Armor Layer	Sampler appears straight.
	17:18	Active Layer	Sampler appears straight.
	17:21	Underlying Sediment	Sampler appears straight.

A metal rod was driven into one of the three sampler locations at each station following SPME sampler retrieval. These rods will be used to help identify the sample stations during subsequent sampling events.

The samplers were rinsed with Talex water and each sampler was wrapped in aluminum foil following retrieval. The samplers were then processed on shore by AECOM personnel. The general processing steps were as follows: Fibers were removed from the Henry sampler, wiped with a damp Kimwipe™, and rinsed with Talex water over clean aluminum trays. Any tape (used to secure the fibers during deployment) or SPME fibers covered by tape were cut from the exposed fiber portions using an X-ACTO® knife and disposed of. A metal rod was used to push the SPME fibers out from those Henry samplers where the fibers had come loose from the tape and had become lodged in the Henry sampler.

Fibers were retrieved from the aluminum tray with tweezers and placed on a clean piece of aluminum foil. Fibers longer than approximately 13 centimeters (cm) in length were cut into two smaller pieces. Fibers were then measured with a caliber, had their lengths recorded, and were placed in a vial of Talex water. Processing of the SPME samplers generally lasted between 15 to 25 minutes per sampler, depending on the difficulty of fiber extraction. All fiber lengths were measured by H. Jones and recorded by R. Purdy and K. Roberts.

Each sampler was deployed with nine SPME fibers. Most fibers remained intact when retrieved. A summary of the retrieved SPME fiber lengths is provided in Table 3.

Table 3: August 19, 2016 SPME Fiber Length Summary

Start Time of Processing	Sample Location	Measured Fiber Recovery
15:10	Station 0607, Armor Layer	163.5 cm total fiber length recovered
15:35	Station 0607, Active Layer	157.0 cm total fiber length recovered
15:55	Station 0607, Underlying Sediment	148.4 cm total fiber length recovered
16:21	Station 0606, Armor Layer	160.4 cm total fiber length recovered
16:48	Station 0606, Active Layer	156.1 cm total fiber length recovered
17:04	Station 0606, Underlying Sediment	157.0 cm total fiber length recovered
17:25	Station 0608, Armor Layer	152.2 cm total fiber length recovered
17:40	Station 0608, Active Layer	133.3 cm total fiber length recovered
18:18	Station 0608, Underlying Sediment	155.9 cm total fiber length recovered

cm – centimeter

The remaining six samplers that were collected on August 19th but were not processed the same day were kept in foil to be processed the following day. These samplers included Station 0609 armor layer, active layer, and underlying sediment; and Station 0610 armor layer, active layer, and underlying sediment.

Summary of August 20, 2016 Field Activities

Personnel in Attendance

Keegan Roberts – CDM Smith
Yeqing Liu – CDM Smith
Tian Liao – CDM Smith
Helen Jones – AECOM
Rick Purdy – AECOM
Claire Murphy-Higgin – AECOM
Jennifer Reed – AECOM
Albert Macaulay – AECOM

General Summary

The August 20, 2016 field activities consisted of:

- Collection of six total grab samples of the soft sediments deposited above the cap at Stations 0601, 0602, 0603, 0603 duplicate, 0604, and 0605.
- Retrieval of 18 total SPME passive samplers from Stations 0601, 0602, 0603, 0603 duplicate, 0604, and 0605.
- Processing fibers from seven of the SPME samplers that were retrieved August 20th
- Processing fibers from six of the samplers retrieved August 19th
- Processing fibers from the field blank

Sediment Sampling

AECOM collected a grab sample of the soft surface sediments on top of the cap at each sample station prior to retrieving the SPME samplers, as required by the QAPP (AECOM 2015). These activities were similar to the sediment sampling conducted August 19. Sediment sampling locations and collection times are noted in Table 4 below.

Table 4: August 20, 2016 Sediment Sample Summary

Collection Time	Sample Location	Notes
16:02	Station 0604	Sample collected between all three SPME samplers
16:27	Station 0603	Sample collected between all three SPME samplers
16:27	Station 0603 (dup)	Sample collected between all three SPME samplers
17:10	Station 0605	Sample collected between active layer SPME sampler and underlying sediment SPME sampler
17:44	Station 0602	Sample collected from base of armor layer SPME sampler
18:01	Station 0601	Sample collected between armor layer SPME sampler and active layer SPME sampler

Sediment samples were collected in the same manner as described in the summary of August 19, 2016 field activities.

Six total sample jars were filled and packaged for shipment.

SPME Sampler Retrieval and Sample Processing

The 18 SPME samplers retrieved during the August 20 field effort were installed on June 3-5, 2016. Most of the SPME samplers were straight and unbent, as noted in Table 5.

Table 5: August 20, 2016 SPME Sample Retrieval Summary

Station Location	Collection Time	Planned Sample Interval	Notes
0604	16:04	Armor Layer	Sampler appears straight.
	16:07	Active Layer	Sampler appears straight.
	16:10	Underlying Sediment	Sampler appears straight.
0603	16:30	Armor Layer	Sampler appears straight.
	16:33	Active Layer	Sampler appears straight.
	16:38	Underlying Sediment	Sampler appears straight.
0603 (dup)	16:41	Armor Layer	Sampler appears straight.
	16:48	Active Layer	Sampler appears slightly bent right above the screen.
	16:50	Underlying Sediment	Sampler appears straight but was pulled from the mud at a slight diagonal.
0605	17:12	Armor Layer	Sampler appears straight.
	17:15	Active Layer	Sampler appears straight.
	17:18	Underlying Sediment	Sampler appears straight.
0602	17:47	Armor Layer	Sampler appears straight.
	17:50	Active Layer	Sampler appears straight.
	17:53	Underlying Sediment	Sampler appears straight.
0601	18:05	Armor Layer	Sampler appears straight.
	18:09	Active Layer	Sampler appears straight.
	18:12	Underlying Sediment	Sampler appears slightly bent near the top.

The general processing steps were the same as described in the summary of August 19, 2016 field activities. Most fibers were intact. A summary of the length of SPME fibers retrieved is provided in the following Table 6.

Table 6: August 20, 2016 SPME Fiber Length Summary

Start Time of Processing	Sample Location	Measured Fiber Recovery
13:45	Station 0609, Armor Layer	159.6 cm total fiber length recovered
14:00	Station 0609, Active Layer	159.8 cm total fiber length recovered
14:13	Station 0609, Underlying Sediment	163.5 cm total fiber length recovered
14:35	Station 0610, Armor Layer	111.0 cm total fiber length recovered
15:19	Station 0610, Active Layer ¹	146.8 cm total fiber length recovered
14:43	Station 0610, Underlying Sediment	159.4 cm total fiber length recovered
16:20	Field Blank	163.8 cm total fiber length recovered
16:35	Station 0604, Armor Layer	154.8 cm total fiber length recovered
16:55	Station 0604, Active Layer	155.8 cm total fiber length recovered
17:10	Station 0604, Underlying Sediment	163.0 cm total fiber length recovered
17:45	Station 0603, Armor Layer	154.9 cm total fiber length recovered
18:00	Station 0603, Armor Layer (dup)	162.4 cm total fiber length recovered
18:20	Station 0603, Active Layer	143.5 cm total fiber length recovered
18:45	Station 0603, Active Layer (dup)	160.0 cm total fiber length recovered

All fiber lengths were measured by H. Jones and recorded by R. Purdy and K. Roberts.

Summary of August 21, 2016 Field Activities

Personnel in Attendance

Yeqing Liu – CDM Smith
Helen Jones – AECOM
Rick Purdy – AECOM
Claire Murphy-Higgin – AECOM

General Summary

The August 21, 2016 field activities consisted of:

- Processing fibers from remaining SPME samplers collected on August 20th

SPME Sample Processing

Eleven samplers had been collected on August 20th but were not processed until August 21st due to fading daylight on August 20th. The general processing steps were the same as described in the summary of August 19, 2016 field activities. Most fibers were intact. A summary of the SPME fiber lengths retrieved is provided in Table 7.

¹ These fibers were noted to have a brown “staining”.

Table 7: August 21, 2016 SPME Fiber Length Summary

Start Time of Processing	Sample Location	Measured Fiber Recovery
11:22	Station 0603, Underlying Sediment	159.3 cm total fiber length recovered
11:40	Station 0603, Underlying Sediment (dup)	141.9 cm total fiber length recovered
12:05	Station 0601, Armor Layer	151.5 cm total fiber length recovered
12:20	Station 0601, Active Layer	159.4 cm total fiber length recovered
12:35	Station 0601, Underlying Sediment	159.8 cm total fiber length recovered
13:00	Station 0602, Armor Layer	159.8 cm total fiber length recovered
13:12	Station 0602, Active Layer	158.9 cm total fiber length recovered
13:33	Station 0602, Underlying Sediment	170.8 cm total fiber length recovered
14:00	Station 0605, Armor Layer	145.6 cm total fiber length recovered
14:18	Station 0605, Active Layer	156.5 cm total fiber length recovered
14:35	Station 0605, Underlying Sediment ²	145.8 cm total fiber length recovered

cm – centimeter

All fiber lengths were measured by H. Jones and recorded by R. Purdy and Y.Liu. The sample bottles from this day and the previous two days (total 34 vials of fibers) were placed in a cooler along with all sediment sample bottles and bubble wrap.

² A metal collar was noted to be stuck onto top of screen, blocking a couple of the screen slits. It was determined the metal collar most likely came off from the SPME installer during the deployment event.

References

AECOM. 2015. Quality Assurance Project Plan, Lower Passaic River Restoration Project, River Mile 10.9 Post-Construction Monitoring – Draft. Rev. 1. December 4.

Attachment 1

Photographs of Field Activities

A selection of photographs from this field effort is provided in this attachment.



Photograph 1: Samplers at Station 0607 prior to retrieval with metal rod marking sample location (at far left of photo)

8/19/2016



Photograph 2: Rinsing armor layer sampler from Station 0606

08/19/2016



Photograph 3: Sample Processing Tent

8/19/2016



Photograph 4: Surface sediment grab sample collected from Station 0608

8/19/2016



Photograph 5: Underlying Sediment SPME Sampler at Station 0610

8/19/2016



Photograph 6: Collecting sediment sample at Station 0609

8/19/2018



Photograph 7: Active Layer SPME Sampler at Station 0609

8/19/2016



Photograph 8: Retrieving SPME samplers from Station 0608

8/19/2016



Photograph 9: Measuring retrieved active layer sampler at Station 0604

8/20/2016



Photograph 10: Collecting sediment sample at Station 0603

8/20/2016



Photograph 11: Retrieving underlying sediment sampler (dup) at Station 0603

8/20/2016



Photograph 12: Measuring depth of armor layer sampler at Station 0605

8/20/2016



Photograph 13: Retrieving underlying sediment sampler at Station 0602

8/20/2016



Photograph 14: Armor Layer SPME Sampler at Station 0601

8/20/2016



Photograph 15: Retrieving Active Layer SPME Sampler at Station 0601

8/20/2016



Photograph 16: Bent underlying sediment SPME Sampler retrieved from Station 0601

8/20/2016



Photograph 17: Metal collar at top of underlying sediment sampler from Station 0605

8/20/2016

Attachment 2

Field Logbook Notes

16 Location LYNDHURST, NJ/PASSAIC Date 6/5/16
Project / Client USEPA-USACE/PASSAIC RM 10.9
SPME INSTALLATION

- 1100 ROBERTS ARRIVES ON SITE.
WEATHER: HEAVY RAIN
1145 McCAULEY ARRIVES ON SITE.
1200 LIU ARRIVES ON SITE
1215 AECOM ARRIVES ON SITE
1305 AECOM CONDUCTS SAFETY BRIEFING.
SAME AECOM TEAM EXCEPT JEN
REED NOT HERE.
1340 ROBERTS ATTEMPTS TO INSPECT
0608, 0609, AND 0610. All
samplers still covered by water.
1440 0608, 0609, AND 0610 still
COVERED BY WATER
1450 AECOM MOBILIZES TO 0603.
0603 WILL BE DUPLICATE LOCATION.
1650 AECOM COMPLETES DEPLOYMENT AT
0602.
1748 ROBERTS LEAVES SITE.

END OF DAY

K. Roberts
6/5/16

17 Location LYNDHURST, NJ/PASSAIC Date 8/19/16
Project / Client USEPA-USACE/PASSAIC RM 10.9
SPME ~~REMOVAL~~ RETRIEVAL

- 1230 K. ROBERTS (THIS NOTETAKER)
ARRIVES ON SITE. WEATHER:
W 85°F, PARTLY CLOUDY, SLIGHT
BREEZE.
TIAN LIANG, YEQING LIU (CDM
SMITH ON SITE), RICK PURDY,
HELEN JONES, CLAIRE-MURPHY-
HIGGINS (AECOM) ALREADY ON-
SITE. ^{for 8/19/16} ZHANG KEI-HUA WANG, JEN
REED, AND ALBERT "DARBY"
McCAULEY ARRIVE ON SITE.
1320 AECOM HOLDS SAFETY BRIEFING.
1445 FIELD TEAM DEPLOYS TO 0607
1458 0607 SEDIMENT SAMPLE COLLECTED
1508 0607 SAMPLERS BROUGHT 24
SHORE. GREEN = TOP, YELLOW =
MID, RED = BOTTOM/DEEP.
1510 GREEN SAMPLER PROCESSED (PHOTO)
ALL FIBERS APPEAR TO BE
INTACT. FIBER LENGTHS ARE:
86.7, 93.4, 88.8, 123.7, 59.3,
93.5, 64.6, 117.3, 81.3, 101.1,
64.5, 10.6, 107.5, 85.1, 7.1,
93.9, 79.0, 74.0, 22.6, 80.0,
101.3 (ALL IN mm) *Roberts*

Location LYNDHURST, NJ/PASSAIC Date 8/19/16
 Project / Client USEPA-USACE/PASSAIC RM10.9
SPME RETRIEVAL

- 1535 BEGIN PROCESSING YELLOW 0607
 SAMPLER. ALL FIBERS INTACT.
 FIBER LENGTHS IN mm ARE: 79.2,
 90.0, 82.4, 89.6, 87.8, 43.3, 49.4,
 109.2, 88.3, 96.7, 61.3, 118.4, 80.6,
 99.8, 96.2, 82.4, 70.1, 123.5, 12.9,
 8.8
- 1555 BEGIN PROCESSING RED 0607 SAMPLER.
 DIFFICULTY REMOVING FIBERS FROM
 SAMPLER. FIBER LENGTHS IN mm ARE:
 84.4, 94.3, 89.9, 86.4, 99.8, 18.5,
 66.5, 72.3, 67.4, 77.1, 74.0, 89.3,
 88.0, 61.0, 13.5, 12.0, 23.6,
 110.0, 56.6, 85.6, 87.5, 36.7, 77.2
- 1621 BEGIN PROCESSING GREEN 0606
 SAMPLER. ALL FIBERS INTACT. FIBER
 LENGTHS IN mm ARE: 36.1, 53.0,
 63.3, 77.4, 102.5, 89.8, 89.7,
 102.9, 76.5, 80.0, 98.0, 99.4,
 79.6, 104.6, 74.1, 91.9, 86.8, 55.6,
 94.3, 48.8
- 1648 BEGIN PROCESSING YELLOW 0606 SAMPLER.
 ALL FIBERS INTACT. FIBER LENGTHS IN
 mm ARE: 101.1, 91.3, 81.7, 80.8, 93.2,

Location LYNDHURST, NJ/PASSAIC Date 8/19/16
 Project / Client USEPA-USACE/PASSAIC RM10.9
SPME RETRIEVAL

- 1648- 90.3, 82.9, 94.7, 78.0, 88.6, 85.0,
 CONT. 90.7, 82.1, 88.9, 84.5, 99.6,
 74.1, 73.0
- 1704 BEGIN PROCESSING RED 0606
 SAMPLER. ALL FIBERS INTACT. FIBER
 LENGTHS IN mm ARE: 60.3, 82.2,
 93.8, 65.2, 76.7, 100.0, 59.3,
 76.2, 96.2, 81.8, 79.7, 83.5,
 91.5, 111.8, 58.2, 92.1, 84.5,
 81.5, 95.4
- 1725 BEGIN PROCESSING GREEN 0608
 SAMPLER. ALL FIBERS INTACT.
 NOTE: FIELD TEAM MISLABELED 0608
 AS 0609. FIBER LENGTHS IN mm
 ARE: 56.4, 84.6, 90.3, 80.3,
 65.1, 64.3, 91.4, 72.6, 69.2, 75.4,
 98.1, 88.5, 25.5, 24.2, 32.6,
 32.1, 80.4, 42.4, 67.7, 73.2,
 46.1, 71.4, 17.5, 72.8
- 1740 BEGIN PROCESSING YELLOW 0608
 SAMPLER. FIBERS SEPERATED FROM
 INSERT ROD AND ARE BROKEN.
 FIBER LENGTHS IN mm ARE:
 82.3, 63.1, 95.2, 17.7, 4.4

8/19/16

Rite in the Rain

20 Location LYNDHURST, NJ / PASSAIC Date 8/19/16
Project / Client USEPA-USACE / PASSAIC RM10.9
SPME RETRIEVAL

1740-- 7.8, 4.0, 25.3, 7.4, 10.2, 4.0,
CONT 6.1, 2.5, 28.8, 56.4, 12.0, 33.1,
11.8, 15.6, 78.6, 61.8, 78.1, 80.3,
64.2, 64.7, 37.6, 99.8, 38.3,
31.0, 50.0, 62.8, 15.0, 6.1, 16.3,
11.5, 10.8, 11.9, 8.8, 12.2, 2.9,
2.8, 95.2

1810 BEGIN PROCESSING RED 0608 SAMPLER.

1818 A FEW FIBERS ARE BROKEN, FIBER
LENGTHS IN mm ARE: 81.2, 86.3,
81.7, 84.1, 100.9, 60.5, 116.1, 74.7,
81.3, 54.5, 93.6, 115.3, 88.1,
85.9, 6.1, 6.5, 41.6, 90.7, 51.6,
28.1, 6.5, 123.8

1900 ROBERTS LEAVES SITE.

END OF DAY

K. Roberts
8/19/2016

21 Location LYNDHURST, NJ / PASSAIC Date 8/20/16
Project / Client USEPA-USACE / PASSAIC RM10.9
SPME RETRIEVAL

1300 K. ROBERTS (THIS NOTE TAKER)
ARRIVES ON SITE.
JONES, HIGGINS, MACLAUGHEY, PUDY,
AND ZEDD (AECOM) ON SITE.
WEATHER: 84°F, 5TH, PARTLY
CLOUDY

1336 AECOM HOLDS SAFETY BRIEFING

1345 BEGIN PROCESSING GREEN 0609
SAMPLER COLLECTED YESTERDAY.
ALL FIBERS INTACT. FIBER LENGTHS
IN mm ARE: 98.8, 79.1, 85.1,
92.1, 85.2, 69.1, 85.5, 84.3,
93.2, 90.0, 108.9, 85.9, 91.3,
84.9, 93.0, 92.7, 84.1, 92.9

1400 BEGIN PROCESSING YELLOW 0609
SAMPLER COLLECTED YESTERDAY.
ALL FIBERS INTACT. FIBER LENGTHS
IN mm ARE: 89.7, 87.7, 83.2,
89.4, 89.1, 82.3, 69.6, 64.3,
120.8, 87.6, 77.5, 84.6, 85.4,
9.8, 6.3, 6.1, 6.8, 4.4, 1.8,
43.4, 53.5, 64.9, 106.9,
87.3, 95.2

1413 BEGIN PROCESSING RED 0609

Not in the rain

SPME RETRIEVAL

1413 - COLLECTED YESTERDAY. SOME FIBERS
CONT. BROKEN. FIBER LENGTHS IN mm

ARE: 104.2, 77.3, 75.2, 75.4,
132.7, 107.5, 75.2, 80.0, 99.1,
10.8, 4.4, 11.9, 99.2, 102.5, 67.6,
53.5, 30.8, 83.1, 48.4, 121.1, 58.7,
16.1

1435 BEGIN PROCESSING GREEN OG10
COLLECTED YESTERDAY. MANY FIBERS
BROKEN. FIBER LENGTHS IN mm ARE:
7.1, 6.2, 5.8, 4.7, 6.7, 2.9, 2.4, 4.0,
5.4, 9.6, 4.7, 3.9, 7.1, 5.2, 4.8, 4.3,
6.0, 7.9, 9.4, 6.8, 30.0, 12.1, 8.6,
7.0, 6.1, 4.9, 8.2, 8.9, 7.5, 9.4,
5.1, 3.8, 3.6, 4.8, 34.6, 24.9,
41.6, 23.7, 48.2, 47.4, 42.8,
42.3, 42.2, 16.5, 4.2, 3.6, 3.5,
4.2, 5.5, 39.9, 41.2, 23.7, 27.5,
29.4, 33.3, 37.9, 24.4, 15.4, 17.5,
14.7, 9.7, 10.7, 9.5, 11.7, 22.4,
39.3, 5.0, 22.3, 8.0, 9.3, 19.4,
17.3

1519 BEGIN PROCESSING YELLOW OG10
COLLECTED YESTERDAY. ALL FIBERS

SPME RETRIEVAL

1519 - INTACT. FIBERS HAVE A BROWN
CONT. "STAINING". FIBER LENGTHS IN mm
ARE: 89.9, 89.2, 98.3, 91.1, 88.8,
24.9, 81.1, 94.4, 84.8, 94.2,
84.2, 82.9, 97.2, 92.3, 87.2,
85.9, 93.3, 8.5

1530 T. LIAO (CDM SMITH) ARRIVES ON
SITE.

1545 BEGIN PROCESSING RED OG10
SAMPLER COLLECTED YESTERDAY.
ALL FIBERS INTACT. FIBER LENGTHS
IN mm ARE: 87.3, 89.9, 85.1,
91.6, 84.9, 5.3, 10.0, 87.1, 89.6,
87.4, 66.9, 100.4, 93.4, 84.3,
76.5, 100.8, 91.6, 85.4, 96.5,
79.9

1620 BEGIN PROCESSING BLANK. BLANK
WAS STORED IN AECOM CHELM-
SFORD OFFICE, WAS PREPPED IN
FIELD DURING DEPLOYMENT. ALL
FIBERS INTACT. FIBER LENGTHS
IN mm ARE 98.9, 84.1, 84.6,
96.4, 96.4, 86.1, 97.1, 83.6,
84.3, 99.0, 100.8, 80.6, 89.2,
Kit in the Room

24 Location LYNDHURST, NJ / PASSAIC Date 8/20/16
 Project / Client USEPA-USACE / PASSAIC RM10.9
SPME RETRIEVAL

1620- 93.6, 87.1, 94.2, 82.3, 99.4
 CONT
 1635 BEGIN PROCESSING GREEN 0604
 SAMPLER COLLECTED TODAY. All
 FIBERS INTACT. FIBER LENGTHS IN mm
 ARE 115.1, 110.6, 70.1, 32.0, 60.0, 67.3,
 4.2, 11.0, 46.7, 82.0, 83.6, 85.5,
 97.6, 63.8, 83.9, 81.8, 101.6, 77.1,
 103.1, 18.3, 61.5, 91.5
 1855 ~~KR~~ 8/20/16
 1655 BEGIN PROCESSING YELLOW 0604
 SAMPLER COLLECTED TODAY. All
 FIBERS INTACT. FIBER LENGTHS IN
 mm ARE: 90.1, 86.8, 80.1, 88.9,
 86.0, 90.2, 84.9, 94.7, 42.1,
 35.2, 85.4, 87.5, 84.2, 89.6,
 90.7, 83.3, 79.5, 95.4, 83.4
 1710 BEGIN PROCESSING RED 0604
 SAMPLER COLLECTED TODAY. All
 FIBERS INTACT. FIBER LENGTHS IN
 mm ARE: 86.3, 93.5, 87.4, 88.5, 92.4,
 22.9, 68.5, 91.1, 79.8, 101.9, 81.8,
 99.1, 94.2, 73.7, 97.8, 83.5, 79.0,
 87.1, 92.4, 29.5

25 Location LYNDHURST, NJ / PASSAIC Date 8/20/16
 Project / Client USEPA-USACE / PASSAIC RM10.9
SPME RETRIEVAL

1745 BEGIN PROCESSING GREEN 0603
 SAMPLER COLLECTED TODAY. All
 FIBERS INTACT. FIBER LENGTHS
 IN mm ARE: 85.0, 86.6, 85.8,
 84.9, 99.0, 75.8, 88.5, 79.8,
 89.2, 82.7, 79.2, 93.1, 82.8,
 91.0, 85.1, 87.9, 79.9, 92.7
 1800 BEGIN PROCESSING GREEN 0603
 DUPLICATE SAMPLER COLLECTED
 TODAY. All FIBERS INTACT. FIBER
 LENGTHS IN mm ARE: 33.7,
 126.7, 92.0, 40.5, 17.0, 62.1,
 7.2, 6.4, 53.1, 96.2, 82.9,
 90.8, 89.1, 58.5, 11.3, 118.1,
 96.2, 23.3, 62.1, 115.2, 65.3,
 112.1, 53.1, 6.6, 5.2, 30.6, 68.5
 1820 BEGIN PROCESSING YELLOW
 0603. All FIBERS INTACT.
 FIBER LENGTHS IN mm ARE:
 98.4, 71.7, 37.2, 33.4, 55.1,
 9.8, 4.8, 14.8, 13.8, 3.8, 10.9,
 7.0, 9.6, 66.2, 93.2, 87.5, 54.4,
 55.2, 36.0, 82.2, 92.2, 83.5,
 80.5, 84.5, 83.0, 81.9, 84.7
 R. J. M. R. R.

26

Location LYNDHURST, NJ/PASSAIC Date 8/20/16
 Project / Client USEPA-USACE/Passaic RM10.9
SPME RETRIEVAL

1845 BEGIN PROCESSING YELLOW 0603
 DUPLICATE SAMPLER COLLECTED
 TODAY, ALL FIBERS INTACT, FIBER
^{KAR}
^{8/20/16} ~~LEN~~ LENGTHS IN mm ARE:
 76.0, 101.3, 99.6, 55.1, 71.0, 10.6,
 32.7, 12.2, 8.7, 73.4, 58.0, 63.8,
 35.6, 122.5, 104.6, 93.3, 84.7,
 75.1, 67.5, 82.2, 94.6, 70.6,
 106.7
 1900 K. ROBERTS TO LEAVE SITE.
 END OF DAY

Kayden 8/20/2016

Location

LYNDHURST, NJ/PASSAIC Date 8/21/16 27
 Project / Client USEPA-USACE/Passaic RM10.9
SPME RETRIEVAL

1035 Y. Liu arrived onsite
 1045 Claim of AECOM arrives
 1104 Helen and Rick have arrived
 Setup is in park gazebo
 instead of near shore. 11
 Samplers left to process.
 1120 M&S meeting: main concerns =
 splinter and sharp objects
 1121 0603 red (deep) 1638 collected
 1122 yesterday. Begin processing. All
^{Y. Liu}
^{8/21/16} ~~most~~ fibers intact. ~~One~~ ⁸ ~~8~~ ¹⁶
~~1/2~~ ^{1/2} ~~undamaged~~ Fiber lengths in mm
 are: 92.4, 76.0, 69.0, 66.5,
 83.7, 91.3, 92.2, 86.6, 90.4,
 88.1, 41.5, 90.0, 89.1, 76.1,
 94.8, 89.6, 87.9, 107.3,
 69.6, 7.1, 4.2
 1140 Begin processing 0603 dup (red)
 1650 collection time, collected
 yesterday. Most fibers intact.
 Fiber lengths in mm are:
 65.2, 65.6, 75.3, 56.2,
 61.0, 71.2, 75.5, 77.3, 78.3,
 53.0, 82.3, 86.9, 48.3, 22.6
Rita in the Rain

28 Location Lyndhurst, NJ/Passaic Date 8/21/16
Project / Client USEPA/USACE - Passaic RM10.9
SPNE Retrieval

1140 - 7.5 31.8 43.9 17.3
wt 85.2 50.3 47.2 73.3,
12.0, 58.9, 30.2, 41.7

1205 Begin processing 0601 green
collected at 1805 yesterday.
Some fibers are broken. Most intact.
Fiber lengths in mm are:
84.0, 92.2, 83.0, 102.2,
41.4, 3.8, 71.3, 72.2,
72.2, 102.1, 62.9, 62.2,
17.3, 45.0, 51.3, 63.8, 61.9,
54.8, 103.5, 88.9, 86.3,
92.6

1220 Begin processing 601 yellow
collected at 1809 yesterday.
All fibers intact.
Fiber lengths in mm are:
95.8, 104.1, 74.3, 82.6,
26.7, 24.3, 4.9, 44.4, 37.1,
84.4, 67.0, 84.2, 94.2,
82.6, 94.1, 57.8, 95.3,
91.7, 83.5, 94.0, 81.9,
89.5.

1235 Begin processing 601 red
collected at 1812 yesterday

29 Location Lyndhurst, NJ/Passaic Date 8/21/16
Project / Client USEPA-USACE/Passaic RM10.9
SPNE Retrieval

1235 - This rod is slightly bent
cont at the top (near the disk)
fibers are starting to protrude
out when extracting inner
rod from screened exterior
rod. Very sandy inside.
(see pic) All fibers intact.

Fiber lengths in mm are:
7.7, 5.0, 9.5, 10.1, 15.9,
46.7, 36.5, 70.0, 91.6,
84.6, 76.1, 94.3, 83.0,
79.1, 100.5, 100.0, 94.8,
76.8, 77.4, 81.7, 87.3,
89.5, 98.6, 81.0

1300 Begin processing 0602 green
collected at 1747 yesterday.
All fibers intact. Fiber lengths
in mm are: 88.6, 89.2,
84.3, 94.1, 87.7, 89.8, 88.8,
89.5, 78.8, 99.2, 81.8, 93.0,
70.5, 107.4, 87.3, 90.7,
69.8, 107.9.

1312 Begin processing 0602 (yellow)
collected at 1750 yesterday
Ritter on Rain

30

Location Lyndhurst NJ/Passaic Date 8/21/16
 Project / Client USEPA-USAACE / Passaic RM
 SPMB Retrieval

B12 - All fibers intact. Fiber
 lengths in mm are:
 82.9, 109.0, 69.8, 93.3,
 87.8, 83.1, 97.6, 86.6,
 92.4, 82.5, 96.6, 85.2,
 94.0, 93.5, 85.4, 90.1,
 96.9, 82.6

B333 Begin processing 0602 red (day)
 collected at 1753 yesterday
 Fibers are being pulled out 1/8/21/16
 stuck on screened rod when
 interior rod is being pulled out
 quite sandy. Some fibers are
 broken. Fiber lengths in mm
 are: 72.7, 75.2, 48.7,
 87.5, 60.7, 4.0, 21.7,
 14.6, 5.6, 15.9, 12.4,
 17.9, 70.7, 87.7, 64.8,
 89.2, 69.9, 38.0, 24.9,
 38.5, 77.7, 88.0, 99.1,
 104.2, 57.3, 84.1, 91.0,
 78.0, 97.5

B400 Begin processing 0605 green (shallow)
 collected at ~~1712~~ 1712 yesterday
 8/21/16

Location Lyndhurst NJ/Passaic Date 8/21/16 31
 Project / Client USEPA-USAACE / Passaic RM
 SPMB Retrieval

H00 - All fibers seem intact
 (unit) Fiber lengths in mm are:
 93.9, 47.0, 22.1, 17.1, 21.3,
 29.6, 18.8, 6.5, 19.2,
 26.0, 18.8, 55.6, 44.8,
 56.2, 64.7, 66.1, 62.4,
 57.2, 64.2, 87.4, 82.5,
 91.8, 95.1, 82.1, 102.0,
 81.1, 42.7

1418 Begin processing 0605 yellow (mid)
 collected at 1758 yesterday
 All fibers are intact. Fiber
 lengths in mm are: 87.6,
 88.9, 84.2, 88.2, 85.5,
 93.7, 80.5, 85.6, 87.5,
 87.3, 86.9, 84.5, 89.4,
 81.9, 86.6, 87.3, 81.9,
 90.5, 6.4, 6.3
 1/8/21/16

H35 Begin processing 0605 red
 collected at 1718 yesterday
 metal calber stuck on top of
 the screen most likely came
 off of the soil sampling

32 Location Lyndhurst, NJ / Passaic Date 8/21/16
Project / Client USEPA - USA CE / Passaic RM 10.9
S PMT Retrieval

1455 - installation tool. Last sampling
(cont) mod. All fibers intact. Fiber
lengths in mm are: 64.9,
103.4, 32.2, 11.8, 21.2,
68.2, 88.1, 99.6, 87.3,
82.5, 76.9, 81.8, 96.7,
74.0, 82.1, 88.6, 78.2, 83.6,
70.4, 66.5,
1500 Y. Lin. leaves site

end of day

8/21/16

33 Location _____ Date _____
Project / Client _____

Plot in the Room

- 1128 Moved back onto capped area to take 2nd measurement of southern extent (depth of carbon layer)
- 1132 Moved closer to shore to take 1st measurement on southern extent GULF (10 inches to armor layer)
- 1138 Returned to staff gauge for last water level change measurement
- 1143 Boat docked & staff returns onto land
- 1147 Hoisting boat back onto truck carrier
- 1150 Train leaves site. AT GM staff is still unloading boat and packing up. End of day

YL 7/7/16

- 1210 Arrived onsite. Tim Lead of CDM Smith is already present. Weather: 80°F, Partly cloudy, light wind
- 1225 AECOM arrives (Heleen & Rick). MOST likely not going out until 3:30 pm (last tide). Will end on dusk
- 1230 Clair and Albert arrive onsite with boat (See H. Roberts log for full list). AECOM moves onto grass to set up tent & equipment
- 1323 Health & Safety meeting. Review slip trip & falls, heat stress - main concerns. Waiting for low tide: will probably be another 1-2 hours before heading out to water is feasible
- 1420 AECOM prepping PPE to go out
- 1430 Boat is headed at shore
- 1445 Head out to sampling loc. Boat three samples are present also

- 1445 (cont) one disk from previous sampling event is still at this location (not to be confused w/ current samplers) current samplers have caps and labels is for armor layer (yellow)
- 1450 Dave asks Rick which color label is for armor layer (yellow)
- 8/19/16 Rick determines yellow is the middle layer 8/19/16
- 1458 Sediment sample collected from between 1st two samplers
- 1459 Rick confirms green = top, yellow = middle, red = bottom
- 1500 Green rod pulled out - appears straight top & bottom
- 1503 3rd sampler pulled out of ground. Also appears straight (yellow)
- 1505 1st sampler pulled from 0607. Appears straight (red) in foil. Samplers are wrapped and brought back to tent for processing
- 1514 Team arrives at 0606
- 1516 Sediment sampler being taken from between the 3 samplers
- 1518 1st sampler taken out (green)

- 1520 2nd Sampler taken out at ground
- 1522 Pulling chain from 3rd sampler
- 1523 3rd Sampler is taken out of ground (red)
- 1526 Put a rod with disk at sampling loc 0606 to mark place
- each sampler is cleaned w/ wipes and sprayed with water to clean and remove dirt and mud before it is wrapped in foil to be processed
- 1531 AECM folk team packs up and leaves 0606
- 1545 Arrive at 0608. AECM is setting up sampler cleaning table. Boat is also being set up with motor
- 1600 Clark and Darby row in boat to 0610 location to check status. Motor is not functioning properly so team is rowing/paddling instead
- 1603 Boat returns to pick up Rei Toi

Not in the Rain

- 1607 Team dismounts boat and heads to Sampling Loc 0610
- 1609 Sediment Sampler
- 1612 1st Sampler is extracted (green?)
- 1614 place marking rod is pushed into the ground and 2nd
- 1616 3rd Sampler is extracted (red)
All samples appear straight and are capped. Samples are placed on foil at the foot of the boat to be cleaned and processed on shore.
- 1619 Accom leaves Sampling Loc 0610
- 1622 Boat team docks near 0608
- 1625 Samples taken from Loc 0610 are rinsed with ^{water} (one by one) and wrapped in ^{foil} foil
- 1637 sediment sample is collected from Loc 0608
- 1640 1st Sampler pulled out (green) (appears straight and capped) red
- 1641 2nd Sampler pulled out (yellow?)
- 1643 3rd Sampler pulled out (yellow/red?)

- 1646 Place marking rod is pushed into the ground
- 1649 Samples are all marked and cleaned and wrapped in foil. Jennifer returns to shore to drop off samples for processing. Boat team returns to boat to area location 0609
- 1702 Boat team arrives at 0609 after collecting ^{sediment} ~~sample~~ from onshore ^{8/19/16}
- 1708 Sediment ~~sample~~ is collected with special tool. Sediment sample is collected with a spoon using first ^{top} 2-4 inches sediment collected by tool. This is done multiple times until the sampling jar is filled (~7 or 8 times). Finishes at 1714
- 1716 green Sampler is pulled out appears capped and straight top of sampler is rinsed with a little bit of river water
- 1719 2nd Sampler pulled out (yellow) appears straight and capped

Rite in the Rain

64 Location Passaic RM 10.9 Date 8/19/16
Project / Client USEPA

- 1721 Third & last sampler (rod) is pulled out - also appears straight and capped.
- 1722 placeholder rod is put into ground @ ~~0604~~ 0609 location
- 1723 AECOM Boat crew return to boat
- 1726 Boat crew returns to 0608 location where sample cleaning table is located and brings the 3 samplers from 0609
- 1730 Samplers are sprayed w/ water and wiped clean and wrapped w/ foil one by one and labeled (sample use and retrieval time)
- 1739 Boat is being decontaminated.
- 1740 Table is broken down and supplies are returned onshore
- 1802 Y-Lin leaves site. AECOM and K. Roberts are still onsite to finish counting fibers

end of day
YL 8/19/16

Location Passaic RM 10.9 Date 8/20/16 65
Project / Client USEPA

- 1547 Y-Lin arrives onsite. ^{paper} CDM Smith and AECOM are present already
- 1557 Team arrives at 0609
- 1601 Sediment sample taken from between the 3 samplers
- 1603 AECOM is measuring height of each sampler above sediment surface
- 1605 First sampler pulled (green) appears straight and capped
- 1607 2nd sampler pulled, debris caught on disk. This is removed prior to measurement. Appears straight & capped also
- 1610 3rd sampler is pulled (red labeled) appears straight & capped
- 1612 placeholder rod is pushed into 0604 location
- 1613 Team returns w/ 3 sampling rods to wrap station
- 1615 Samplers are rinsed, wiped and wrapped while field team (clay and darcy) take a rest
- 1624 Field team heads to 0603

KR in the Room

66 Location Passaic RMD.9 Date 8/20/16
Project / Client USOPA

- 1627 Sediment sample is collected at 0603 (this is the dump location)
- 1628 Sample collected for dump sediment
- 1630 1st sampler is pulled (green) appears straight, debris is shaken off the sampler rod
- 1631 2nd sampler pulled (yellow) also appears straight & capped
- 1633 both samplers are brought back to prep/wash station to be prepared for sampling
- 1639 3rd sampler pulled (red) there is some debris on top of the disk on the sampler rod
- 1641 1st of the duplicates at 0603 pulled out (green)
- 1643 the two samplers are brought back to table to be prepared
- 1644 2nd dump sampler pulled from 0603 dump location, appears straight and capped (yellow)
- 1650 3rd sampler (dump) pulled (red) appears straight but was pulled out diagonally ~ 20' from vertical

Location Passaic RMD.9 Date 8/20/16
Project / Client WEPA

- 1652 Team returns to prep station with the two samples. Yellow dump appears to have a slight bend right above the screen ~ 10° angle from vertical. Duplicates were labeled with white zip ties.
- 1705 Field team reaches 0605 sampling location.
- 1710 Sediment sample collected
- 1712 1st sampler pulled (at slight angle ~ 15° from (green) vertical). Also debris stuck on but was shaken off.
- 1715 second sampler pulled out straight (yellow)
- 1717 Both samplers were handed off to Jennifer for prep work.
- 1723 Field team wraps up at 0605 after red sampler was pulled (see T. Liao's logbook for specific time) 1718 red rod pulled

Rita on deck

- (cont) all samplers appear capped and straight
- 1730 all samplers have been packed in aluminum foil after being washed and wiped
- 1740 team arrives at 0602
- 1746 Sediment sample taken next to two of the samplers
- 1747 1st sampler pulled out
lots of debris on top of disk part of sampler but appears straight and capped (green)
- 1749 1st sampler is brought back
- 1751 2nd sampler is pulled out appears straight and capped (yellow)
- 1752 2nd sampler brought back
- 1753 3rd sampler (red) is pulled: appears straight and capped
- 1754 Place marking rod is pushed into the ground (marked hole locations attempted but difficult to get rod fully lowered)
- 1756 Field team leaves 0602 and returns to mapping/prep station

- 1800 Team Reaches 0601
- 1802 Sediment sample taken from the distance two samplers
- 1804 1st sampler pulled looks straight and capped but a lot of debris and sludge is caught in. This was removed by hand
- 1805 Sampler is brought back to prep table
- 1806 2nd sampler is pulled
- 1810 2nd sampler is brought back to prep table - it appears capped and straight
- 1813 3rd sampler is pulled there is a slight bend in the rod about 2/3rd up the just below the disk
- 1815 placeholder rod is pushed into the ground
- 1820 Field team returns to shore to clean processing is still ongoing
- 1835 T. Liao leaves site
- 1908 Y. Liu leaves site
end of day

Location Lyndhurst, NJ Date 8/19/16
 Project / Client USEPA-USACE/Passaic PM10.9
SPME Retrieval

- 1145 LIAO arrives on site
 weather: 90°F sunny
 1210 LIAO arrives on site
 1230 Roberts arrives on site
 AECOM on site
 PPE: Tyvek, waders, safety glasses
 1315 AECOM holds H&S Meeting - heat stress
 1440 AECOM mobilizes to location
 ISA-0607
 1450 There are four samplers, one of
 them is from last event.
 The three samplers for this event
 look good. No debris, straight up, with caps
 1500 Green disc is sampled
 1502 Yellow disc is sampled
 1503 Red disc is sampled
 location ISA-0607 samplers are collected
 1515 AECOM moves to ISA-0606
 1516 AECOM takes sediment sample
 1518 Green disc is sampled
 1520 Yellow disc is sampled
 1522 Red disc is sampled
 Samples on ISA-0606 are collected
 samplers are straight up, with caps.
 TL

Location Lyndhurst, NJ Date 8/19/16
 Project / Client USEPA-USACE/Passaic PM10.9
SPME Retrieval

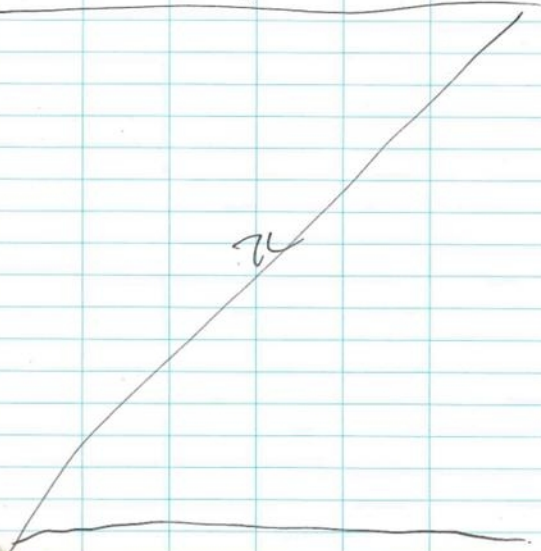
- 1550 AECOM moves to ISA-0608 area
 1600 boat motor not functioning
 AECOM paddles to ISA-0610
 For H&S reason, CDM Smith is
 not with AECOM group, since they
 are paddling, CDM Smith oversees
 them on land.
 1610 sediment is collected @ ISA-0610
 1611 Green disc is sampled
 1614 Yellow disc is sampled
 1615 Red disc is sampled
 1630 AECOM moves to ISA-0608
 1637 sediment sample is collected
 1639 Green disc is sampled
 1641 ~~Red~~ Yellow disc is sampled
 1643 Yellow disc is sampled
 samplers @ ISA-0608 and ISA-0610
 look good.
 1651 AECOM paddles to ISA-0609
 1708 sediment sample is collected
 1716 Green disc is sampled
 1718 Yellow disc is sampled
 1721 Red disc is sampled
 samplers look good. No debris
 straight up, with caps. TL

Location Lyndhurst, NJDate 8/19/16Project / Client USEPA-USEACE/Passaic PM10.9
SPEN Retrieval

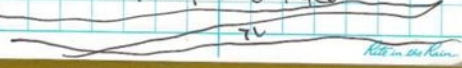
Summary: samplers were collected in the following order: ISA-0607, ISA-0608, ISA-0610, ISA-0608, ISA-0609 sediments and three samplers were collected at each of the location. All samplers look good. Photos taken

1745

LIAO offsite

Location Lyndhurst, NJDate 8/20/16 37Project / Client USEPA-USEACE/Passaic PM10.9
SPEN Retrieval

1515 LIAO arrives onsite
Roberts and AECOM are onsite
Weather: 85°F sunny
1550 LIAO arrives onsite
PPE: Tyvek, waders, safety glasses
1555 AECOM mobilizes to ISA-0607
1602 sediment is collected
1604 Green disc is sampled
1607 Yellow disc is sampled
1610 Red disc is sampled
samplers are good. Straight, with cap
photos taken
1625 AECOM moves to ISA-0603
1630 Green Disc is sampled
1633 Yellow Disc is sampled
1638 Red Disc is sampled
1641 Green Dup is sampled
1648 Yellow Dup is sampled
1650 Red Dup is sampled
sampler are good. Straight up
with caps. Photos taken
1705 AECOM moves to ISA-0605
1710 sediment is collected



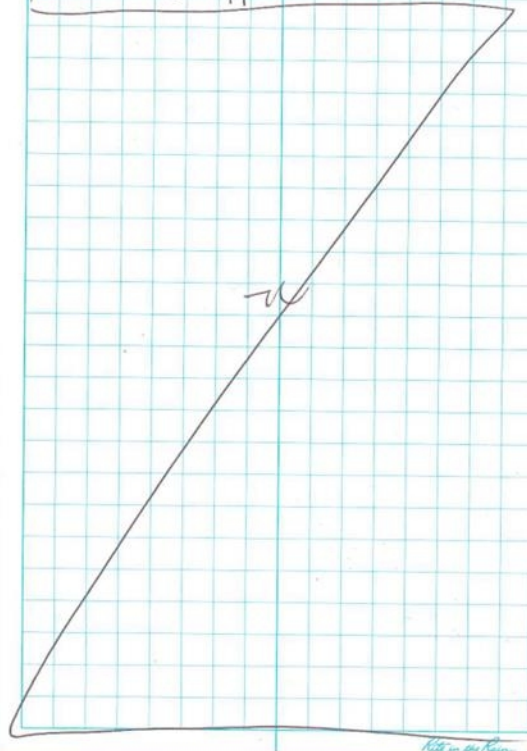
Location Lyndhurst, NJ Date 8/20/16
 Project / Client EPA-USACE / Passaic PM 10.9
SPEM Retrieval

- 1712 Green is sampled
 1715 Yellow is sampled
 1718 Red is sampled
 samplers look good. straight, with cap
 photos taken
 1735 AECOM moves to 15A-0602
 1744 Sediment is sampled
 1747 Green is sampled
 1750 Yellow is sampled
 1753 Red is sampled
 1800 AECOM moves to 15A-0601
 1801 All samplers @ 15A-0602
 are good. photos taken
 1801 15A-0601 sediment is collected
 1805 Green is sampled
 1809 Yellow is sampled
 1812 Red is sampled. Sampler is a little
 bit bent. photos taken
 The other samplers are fine.
 Straight, with cap. Photo taken.
 Summary: Samplers were collected in the
 following order: 15A-0604, 15A-0603
 15A-0605, 15A-0602, 15A-0601
 photos taken.

TL

Location Lyndhurst, NJ Date 8/20/16 39
 Project / Client EPA-USACE / Passaic PM 10.9
SPEM Retrieval

1850 LIAD offsite



Kitt on the River